CLAIMS:

1. A scheduling method for assigning a process to be executed to one of a plurality of processors in a computer system comprising the plurality of processors, at least a part of said plurality of processors having a performance measuring means individually, each of said performance measuring means obtaining processor operation characteristics while executing a program of the processor, said scheduling method comprising the steps of:

when executing a process by one of said processors, obtaining said processor operation characteristics of the process by controlling said performance measuring means; and

selecting with priority a processor, to which each process is assigned, on the basis of said processor operation characteristics of each process that is being executed or can be executed in said computer.

2. A process scheduling method according to claim 1, wherein a ratio of memory access wait time to program execution time is used as said processor operation characteristics.

3. A process scheduling method according to claim 1, wherein a memory access size during execution of a program is used as said processor operation characteristics.

4. A process scheduling method according to claim 2, wherein in decreasing order of said memory access wait time ratio of each process that is being executed or can be executed, each process is assigned to a processor having the largest cache capacity with first priority when assigning each of the processes.

5. A process scheduling method according to claim 2, wherein in decreasing order of the memory access wait time ratio of each process that is being executed or can be executed on said computer, each process is assigned to a processor having the shortest memory access latency with first priority.

6. A process scheduling method according to claim 3, wherein said computer system has a plurality of nodes, each of which comprises one or more processors; and

when assigning each of the processes, each process is assigned with priority on the basis of said memory access size of each process, which is being executed or can be executed on said computer system, so that a total memory access size of one or more processes, which are assigned to each node, does not exceed memory access performance of the node.

7. A process scheduling method according to claim 1, further comprising the step of:

recording the processor operation characteristics

of each process, which have been obtained by controlling said performance measuring means, on a file system,

wherein when executing the process next time, a processor, to which the process is assigned, is selected with priority on the basis of the processor operation characteristics of the process that have been recorded on said file system.

8. A process scheduling method according to claim 2, wherein a change in memory access characteristics of each process is obtained by controlling said performance measuring means, and when assigning a time slice of said processor to each process, a length of the time slice to be assigned to each process is changed on the basis of the change in said memory access characteristics of each process that is being executed or can be executed on said computer.

9. A process scheduling method according to claim 8, wherein if it is detected that there is a tendency for the memory access wait time ratio or the memory access size of a process in a time slice to decrease to a level lower than a predetermined threshold value or a threshold value determined by a scheduling function on the basis of memory access characteristics of each process, a length of the time slice of the process is changed to a larger value than the predetermined value.

10. A process scheduling method according to claim 3, wherein after obtaining a change in a memory access size of each process by controlling said performance measuring means, start time of a time slice is set at different time for each process assigned to each processor in the computer, with the result that as compared with a case where time slices are started simultaneously, a decrease in performance is prevented, said decrease in performance being caused by a total memory access size of processes being executed simultaneously, which has exceeded memory access performance of the computer.

11. A computer system having a plurality of processors, wherein each of said processors has one or more performance measuring units comprising a pair of a performance measuring data register for counting the number of times a specific event has taken place from among a plurality of events that have taken place in the processor, and a performance measuring control register for indicating an event that should be measured by said performance measuring data register; and

said performance measuring unit can obtain a change in the specific event in a time slice by successively storing a value of the performance measuring data register in an area for performance measurement, which is provided in a memory of said computer system.

12. A process scheduling method according to claim 1, wherein if a part of the processors does not have the performance measuring means, a processor, to which each process is assigned, is selected with priority on the basis of memory access characteristics that have been obtained when executing the process by a processor having the performance measuring means.

13. A scheduling method for assigning a process to be executed to one of a plurality of processors in a computer system comprising the plurality of processors, at least a part of said plurality of processors having a performance measuring means individually, each of said performance measuring means obtaining processor operation characteristics while executing a program of the processor, said scheduling method comprising the steps of:

when executing a process by one of said processors, obtaining a ratio of memory access wait time to process execution time of the process as said processor operation characteristics; and

assigning a process of the highest ratio of said memory access wait time to a processor having the largest capacity cache and the smallest memory access latency.

14. A process scheduling method according to claim 13 further comprising the steps of:

obtaining the ratio of said memory access wait time

for each of the plurality of processes; and

scheduling the processes in such a manner that a process of higher ratio of said memory access wait time is assigned with priority to a processor having the larger capacity cache and the smaller memory access latency.

15. A process scheduling method according to claim 14, wherein said computer system has a plurality of nodes, each of which is a processor configuration comprising one or more processors, said node sharing the same memory and being controlled by the same operating system, further comprising the steps of:

obtaining memory access throughput of each process being executed as said processor operation characteristics; and

assigning each process to the processor so that a total memory access throughput of one or more processes, which are assigned to each node, does not exceed memory access throughput performance of the node.